

MOUND BUILDERS



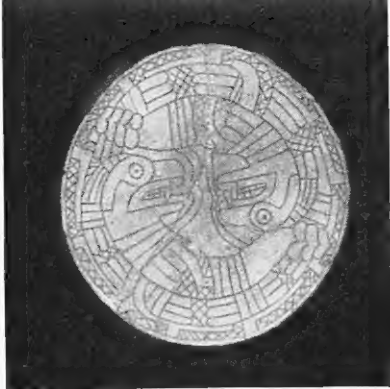
Ohio Historical Society

Twin Burial Mounds stand at Fort Ancient State Memorial, near Lebanon, Ohio. Indians built the mounds in the A. D. 1100's or 1200's.

MOUND BUILDERS. Many mounds and earthworks made by early American Indians lie scattered throughout the central and eastern United States. Some are square, and others are round or oval. Effigy mounds have the shape of animals. Some mounds were burial places for the dead. Others, with flat tops, had lodges or temples on top. The valleys of the Mississippi and Ohio rivers contain an especially large number of mounds. Ohio and Illinois each have more than 10,000.

The Mound Builders were various groups of prehistoric American Indians who lived at different times and had various cultures. We do not know what these early Indians called themselves. Archaeologists, who study ancient times, have given the groups such names as Hopewell and Mississippian.

The Mound Builders used countless baskets of earth to make the mounds. This amount of labor indicates a well-developed social organization. The sharp flint axes and hatchets tell us that the Mound Builders could cut down trees and shape the wood. The arrowheads, knives, and sharp bone needles prove that they killed and skinned wild animals, ate their flesh, and used their pelts for clothing. Hoes and spades show that their owners knew how to farm. We know that corn ranked as one of their main crops. The Mound Builders also raised tobacco, and smoked it in beautiful stone pipes. Many mounds contain objects that come from faraway places, so we know that the Mound Builders traded a great deal. For example, Ohio mounds have contained black volcanic glass called *obsidian* and grizzly-bear teeth from the Rocky Mountains, copper from the



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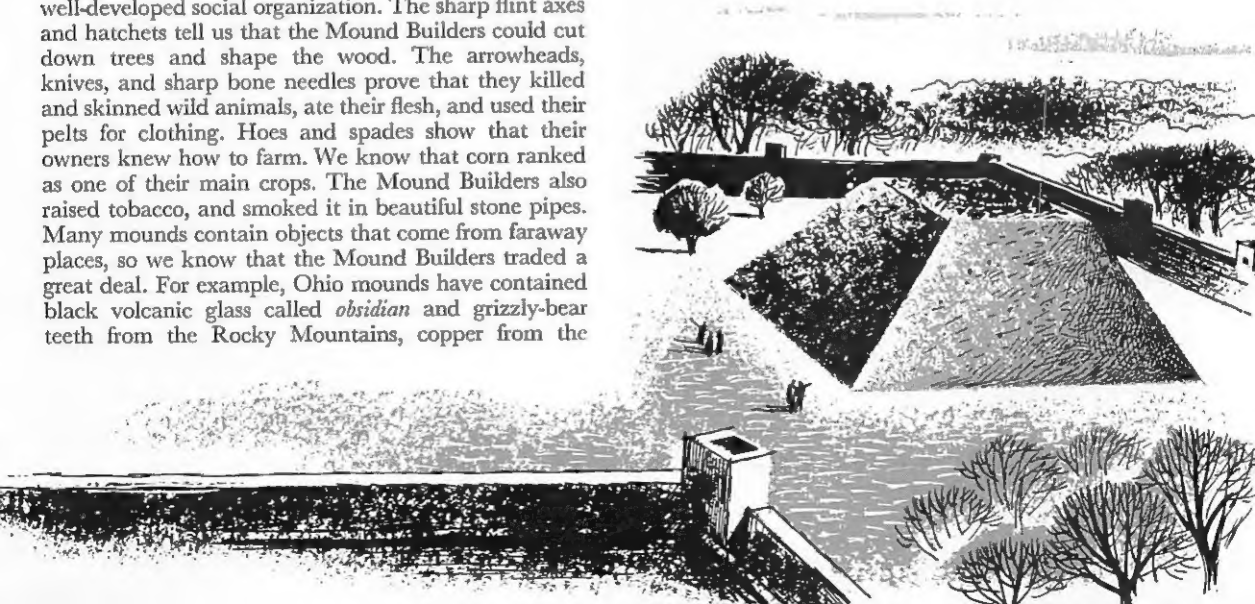
A Sandstone Disk from a temple mound shows two rattlesnakes. The 8½-inch (22-centimeter) disk may have served as a palette.

An Effigy Mound near Lake Koshkonong, Wisconsin, has the stylized shape of a turtle.



Milwaukee Public Museum

A Flat Pyramid Mound that stood at Aztalan village, near Lakemills, Wis., is shown in this artist's drawing. A stockade set with blockhouses surrounded the village.



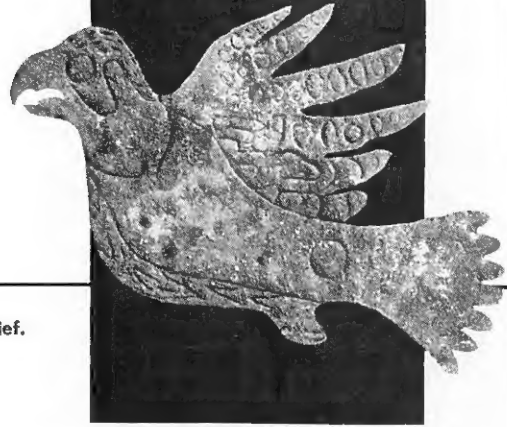


Robert S. Peabody
Foundation for Archaeology

Stone Image of a Chief
came from Etowah Mounds,
Georgia. It measures 25 inches
(64 centimeters).

Objects Found in Mounds
help scientists learn how early
Indians lived. Mounds have
yielded pottery, tools, pipes,
stone sculptures, wood and shell
masks, and ornaments made
from shell, copper, and mica.

Copper Duck Hawk adorned a chief.



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Thin Mica Hand was found in
a Hopewell grave mound in
south-central Ohio.

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An Otter Holding a Fish
decorates a carved stone pipe.

Lake Superior region, mica from New England, and shells from the Gulf of Mexico.

Archaeologists have divided the mounds and their builders into two main groups: (1) burial mounds, and (2) temple mounds.

Burial Mounds. Indians of the Ohio River Valley began building large mounds of earth around A.D. 600. They used the mounds as tombs, sometimes burying as many as a thousand people in one mound. Many scholars believe that the Indians may have learned about building such mounds from Asian peoples. One of the best-known groups of burial mound Indians belonged to the *Hopewell* culture. They formed an alliance of tribes that stretched from Kansas to New York, and from the Gulf of Mexico to Wisconsin. Hopewell people lived by hunting, fishing, and farming. They built round lodges covered with skins or bark. The men wore simple breechcloths but painted their bodies with white and purple dye. Women wore wrap-around skirts. Both men and women liked jewelry of shells, copper, and mica. Hopewell Indians produced some of the finest arts and crafts of the eastern United States. Their carvings in wood and stone often represented realistic men and animals. Their work in copper probably excelled that of all other Indians north of the Rio Grande River.

Temple Mounds became widespread about the year 1000. Indians who built these mounds lived mainly along the Mississippi River and its branches, and their culture is often called *Mississippian*. Temple mound culture reached its peak in the area that now includes Arkansas, Kentucky, Tennessee, and the southeastern states. It also extended northward into Illinois, Wisconsin, and Minnesota. These Indians lived mainly by farming. They organized complicated village-states and religious cults. Their flat-topped mounds served as bases

for temples and chiefs' houses, and probably originated in Mexico. Mississippian peoples built square or rectangular houses and temples of poles covered with matting or thatch. Carvings and paintings decorated the temples, and a sacred fire burned inside. Mississippian Indians ranked among the best potters of eastern North America. Many Mississippian arts and crafts have curious decorations of crosses, spiders, snakes, weeping eyes, and other symbols. Scholars believe that these symbols represent a *Southern Death Cult*, which may have started in Mexico after the white men came.

Hernando de Soto saw temple mound peoples when his expedition traveled through southern North America in 1539-1542. Indians living in this way included the early Cherokee, Chickasaw, Creek, and Natchez. But, by the time white settlers arrived in greater numbers about 125 years later, the Indians had abandoned many of their old ways, and they no longer built such mounds.

Some Famous Mounds. One of the best-known effigy mounds is the *Great Serpent Mound*, near Hillsboro, Ohio. It has the shape of a serpent, and is more than 1,300 feet (396 meters) long. Temple mound sites include *Aztalan*, near Madison, Wis., a village with stockaded walls; and *Etowah Mounds*, near Cartersville, Ga. The *Cahokia Mounds*, near East St. Louis, Ill., include *Monk's Mound*, the largest earthwork in the world. See also the articles on the states where Mound Builders lived, such as OHIO (Places to Visit).

WAYNE C. TEMPLE

MOUND CITY GROUP NATIONAL MONUMENT, near Chillicothe, Ohio, contains a large group of prehistoric mounds. Historians believe the mounds were built by the Indian tribes who first inhabited the state. The monument covers 67.5 acres (27.32 hectares). It was established in 1923. See also MOUND BUILDERS.

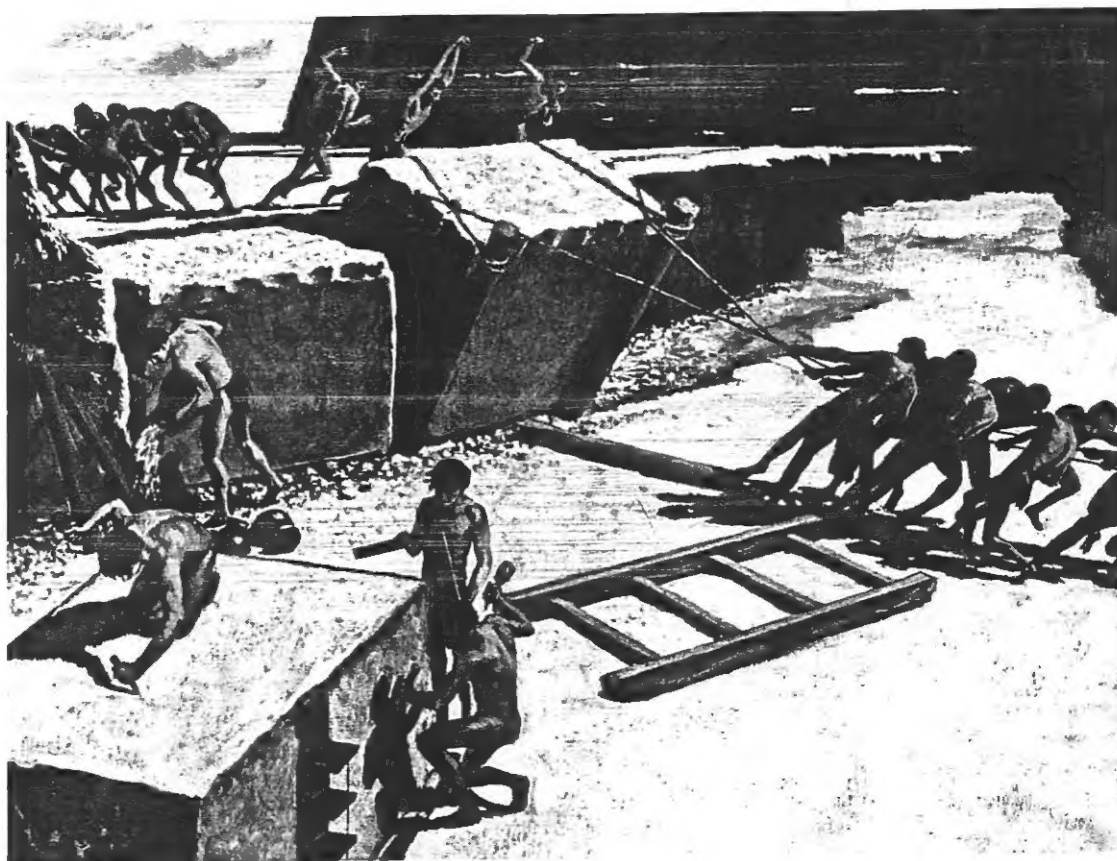
PYRAMIDS



Harrison Forman; WORLD BOOK illustration

THE EGYPTIAN PYRAMID BUILDERS

The Great Pyramid Near Cairo, above, ranks as one of man's most spectacular achievements. Its base covers an area large enough to hold 10 football fields. Workers cut huge blocks for the pyramid from limestone formations, below.



PYRAMIDS are big structures with square bases and four smooth, triangular-shaped sides that come to a point at the top. Many ancient peoples used pyramids as tombs or temples. The most famous pyramids are those built about 4,500 years ago as tombs for Egyptian kings. These Egyptian pyramids are considered among the Seven Wonders of the Ancient World.

Egyptian Pyramids

The ruins of 35 pyramids still stand near the Nile River in Egypt. Each was built to protect the body of an Egyptian king. The Egyptians thought that a man's body had to be preserved and protected so his soul could live forever. The Egyptians *mummified* (dried and wrapped) their dead and hid the mummies in large tombs. They buried the king's body inside or beneath a pyramid in a secret chamber that was filled with treas-

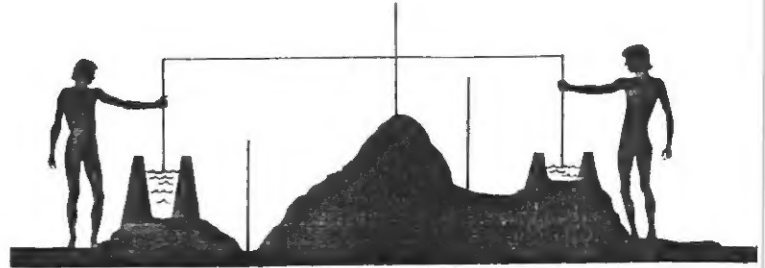
Barbara Mertz, the contributor of this article, is an authority on Egyptology and Near Eastern archaeology, and the author of Temples, Tombs, and Hieroglyphs.

ures of gold and precious objects. Many scholars believe that the pyramid shape had a religious meaning to the Egyptians. The sloping sides may have reminded the Egyptians of the slanting rays of the sun, by which the king's soul could climb to the sky and join the gods.

Funeral ceremonies were performed in temples that were attached to the pyramids. Most pyramids had two temples connected by a long stone passageway. One temple stood next to the pyramid and the other stood beside the river. Sometimes a smaller pyramid for the body of the queen stood next to the king's pyramid. The king's relatives and servants were buried in smaller rectangular tombs called *mastabas*, which had sloping sides and flat roofs.

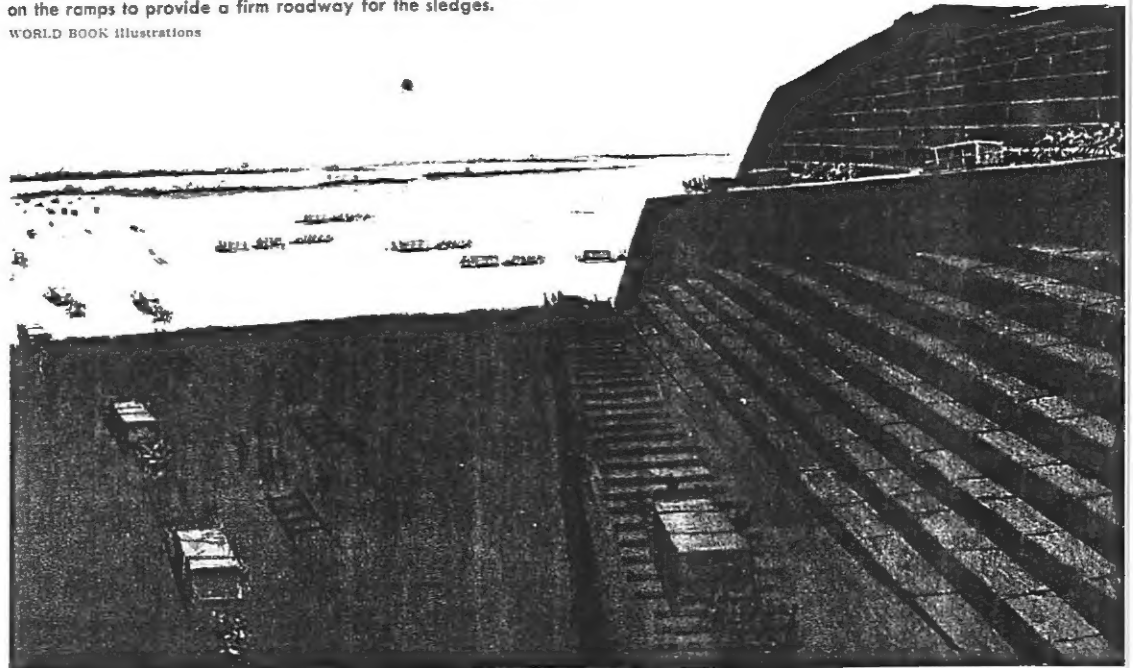
The First Pyramids. Imhotep, a great physician, architect, and statesman, built the first known pyramid for King Zoser about 2650 B.C. Zoser's tomb did not have smooth sides. It rose in a series of giant steps, or terraces, and is called the *Step Pyramid*. It still stands south of Cairo at the site of the ancient city of Saqqārah. See ARCHITECTURE (Beginnings [picture]).

Preparing a Pyramid Site. Egyptian workers used a string device as a guideline. They stretched the string between two sticks that touched the surface of water in a trench dug around the base, right. Workers dug out or filled in the ground until other sticks of equal length fit in between the string and the ground.



Gangs of Workers dragged the blocks to the pyramid site on sledges and pulled them up ramps on the pyramid. They laid planks on the ramps to provide a firm roadway for the sledges.

WORLD BOOK Illustrations



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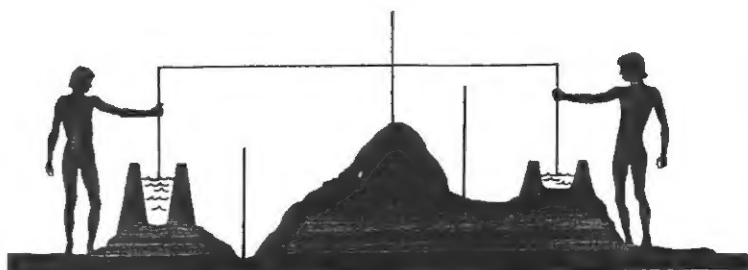
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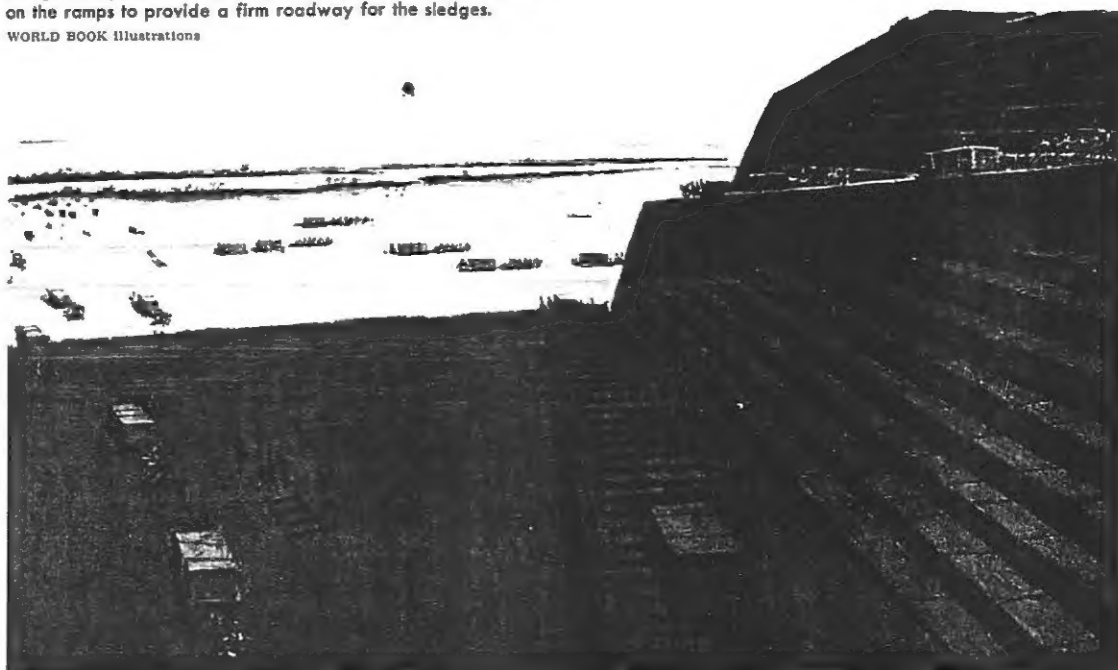
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WORLD BOOK Illustrations



PYRAMIDS

The first smooth-sided pyramid was built about 2600 B.C. It still stands at Medum. It began as a stepped pyramid, and then the steps were filled in with casing stones to give the building smooth, sloping sides. Other early pyramids can be seen at Abusir and Dahshūr. Later pyramids were built at Hawara, Illahun, and Dahshūr—near what is now Cairo. Little of them remains.

The Three Pyramids at Giza (Al Jizah) stand on the west bank of the Nile River outside Cairo (see EGYPT [physical map]). They are the largest and best preserved of all Egyptian pyramids. They were built about 2600 to 2500 B.C. The largest of the three was built for King Khufu (called Cheops by the Greeks). The second was the tomb of King Khafre (Chephren), and the third belonged to King Menkaure (Mycerinus). The huge Sphinx at Giza was also built for Khafre. It stands near his pyramid.

The pyramid of Khufu, called the *Great Pyramid*, is a marvel of building skill. It contains more than 2 million stone blocks that average $2\frac{1}{2}$ short tons (2.3 metric tons) each. The pyramid was originally 481 feet (147 meters) tall, but some of its upper stones are gone now and it stands about 450 feet (137 meters) high. Its base covers about 13 acres (5 hectares).

A study of the Great Pyramid shows how these gigantic structures were built. The ancient Egyptians had no machinery or iron tools. They cut big limestone blocks

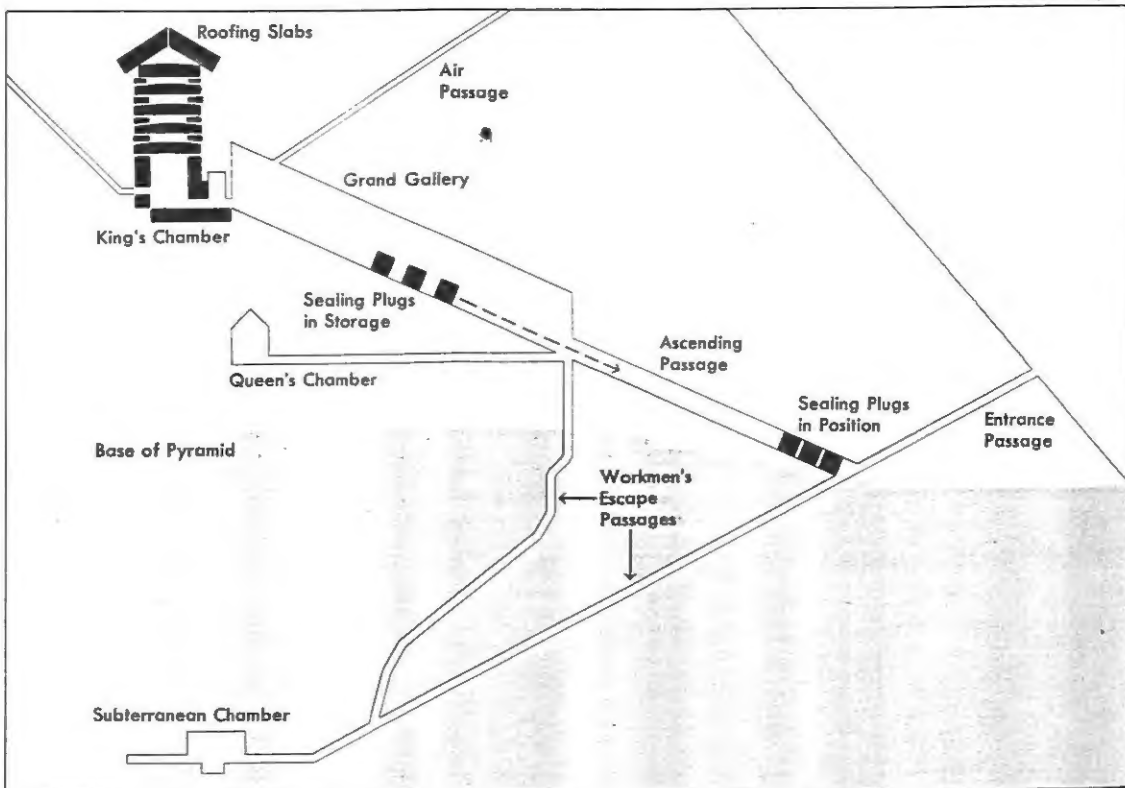
with copper chisels and saws. Most of the stones came from quarries nearby. But some came from across the Nile River, and others came by boat from distant quarries. Gangs of men dragged the blocks to the pyramid site and pushed the first layer of stones into place. Then they built long ramps of earth and brick, and dragged the stones up the ramps to form the next layer. As they finished each layer, they raised and lengthened the ramps. Finally, after the topmost stone was in place, they covered the pyramid with an outer coating of white casing stones. They laid these outer stones so exactly that from a distance the pyramid appeared to have been cut out of a single white stone. Most of the casing stones are gone now, but a few are still in place at the bottom of the Great Pyramid. For pictures showing how the pyramids may have been built, see EGYPT, ANCIENT (pictures: Building the Pyramids).

The burial chamber is inside the Great Pyramid. A corridor leads from an entrance in one side to several rooms within the pyramid. One of the rooms is called the *Queen's Chamber*, although the queen is not buried there. The room was planned as the king's burial chamber. But Khufu changed the plan and built another burial chamber, called the *King's Chamber*. The *Grand Gallery*, a corridor 153 feet (47 meters) long and 28 feet (8.5 meters) high, leads to Khufu's chamber. It is considered one of the marvels of ancient architecture.

The ancient Greek historian Herodotus said that 400,000 men worked each year for 20 years to build the

Cross Section of the Great Pyramid shows the Grand Gallery, the King's Chamber, and the Queen's Chamber. After the burial, sealing plugs were allowed to slide down the passageway from the Grand Gallery to seal off the tomb. Workers left the tomb through an escape passageway.

WORLD BOOK diagram



Great Pyramid. A
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The Pyramid of the Sun at Teotihuacán, Mexico, had a larger base than the largest pyramid in Egypt.

Great Pyramid. Archaeologists now doubt these figures, but the true figures cannot be determined. Peasants built the pyramids. They worked on the tombs during periods when floodwaters of the Nile covered the fields and made farming impossible.

Thieves broke into most of the pyramids, stole the gold, and sometimes destroyed the bodies. Later Egyptian kings stopped using pyramids, and built secret tombs in cliffs. But some kings of the Kushite kingdom in Nubia, south of Egypt, built pyramids long after they were no longer used in Egypt.

American Pyramids

Indians of Central and South America also built pyramids. They built stepped pyramids that had flat tops which they used as platforms for their temples.

The Mochica Indians of Peru built big brick pyramids. *The Temple of the Sun*, near what is now Trujillo, on Peru's northern coast, has a terraced brick pyramid on top of a stepped platform. The Mayas of Central America built pyramid-shaped mounds of earth with temples on top (see MAYA [picture: A Mayan Pyramid]).

The Toltec Indians of central Mexico also built big stepped pyramids. One of these pyramids, at Cholula, is one of the largest structures in the world. Peoples related to the Toltecs built the great pyramids of the Sun and Moon that still stand at Teotihuacán, near Mexico City. The Spanish conquerors destroyed most pyramids of the later Aztec Empire in Mexico. These pyramids were built in steps or terraces like the other American pyramids, and had temples on top. Two of the greatest were at Tenochtitlán (now Mexico City). Mound building Indians of North America built some pyramid-shaped mounds, but they were not true pyramids (see MOUND BUILDERS).

BARBARA MERTZ

BARBARA MERTZ

See also EGYPT (color picture: The Nile Valley).

See also LEPT (color picture: The Arts and Crafts Council). **PYRAMUS AND THISBE**, *PIHR uh muhs* and *THIHZ bee*, are characters in an ancient legend. The Roman poet Ovid told their story in verse. Pyramus and Thisbe were two young lovers who lived next door to each other in Babylon. Their parents opposed the idea of their marriage and prevented them from keeping company. They had to carry on their courtship through a small opening in the wall between their houses.

Finally, they planned to meet by moonlight beneath a mulberry tree outside the city. Thisbe arrived first, but

PYRETHRUM

was frightened by a lion and fled. She dropped her veil and the lion caught it and tore it with his bloody mouth. When Pyramus reached the spot some time later, he saw the lion and the blood-stained veil. He thought that Thisbe had been killed, and stabbed himself. Thisbe soon returned to the scene and found Pyramus dead. She seized his dagger and plunged it into her own breast. To commemorate the tragedy, the fruit of the mulberry tree changed from white to blood red. THOMAS A. BRADY

THOMAS A. BRADY

PYRENEES, *PIHR uh neez*, is the name of a mountain chain that forms a natural barrier between France and Spain. The mountains extend about 270 miles (435 kilometers), from the Bay of Biscay to the Mediterranean Sea (see SPAIN [map]). They cover an area of over 20,000 square miles (52,000 square kilometers). Their average height is only 3,500 feet (1,070 meters), but many peaks in the central ranges rise over 10,000 feet (3,000 meters). The highest point is Pico de Aneto (11,168 feet, or 3,404 meters).

Glacier fields are found on the northern slopes of the Pyrenees. Minerals in the Pyrenees include iron, lead, silver, and cobalt. The iron mines near Bilbao, Spain, at the Biscay end of the Pyrenees, are a prosperous industry. There are forests of fir, pine, and oak.

The Pyrenees chain is a barrier to overland commerce, and France and Spain have had to trade with each other chiefly by sea for many years. Several roads cut through the mountains. Two railways cross them. The first runs between Pau, France, and Saragossa, Spain, by way of the Canfranc Tunnel. The second runs between Toulouse, France, and Barcelona, Spain. This line climbs to a height of 5,200 feet (1,580 meters). There are more than 40 tunnels in a 57-mile (92-kilometer) central section of the Pyrenees. Several resorts are on the northern slopes. The small principality of Andorra is on the south slope of the eastern Pyrenees. The Basques live in the western Pyrenees.

WALTER C. LANGSAM

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See also **ANDORRA**; **BASQUES**; **SPAIN** (picture).

PYRETHRUM, py REE thruh or py REETH ruh, is the name of a group of flowers that give us an insect powder and medicine. It is also called *painted lady* and *painted daisy*. The flower heads grow singly or in clusters on erect stems that rise 1 foot (30 centimeters) or more. They look like daisies with pink, white, crimson, or lilac rays. They bloom in spring or early summer, and are grown as garden flowers or for cutting.

The insecticide is made from the dried and powdered flowers. There are two types, Persian powder and Dalmatian powder, made from different pyrethrums. Pyrethrum, in its pure form or in a mixture, is the least poisonous insecticide to animals and people. It is used in liquids, powders, and sprays for insect control on animals, in the garden, and in the home.

A pyrethrum known as feverfew is used as a tonic. A sedative for neuralgia, toothache, and headaches is also called pyrethrum. It is made from the root of a different kind of plant.

Scientific Classification. Pyrethrums belong to the composite family, *Compositae*. Persian powder is made from genus *Chrysanthemum*, species *C. coccineum*. Dalmatian powder is made from *C. cinerariaefolium*. Feverfew is *C. parthenium*. The sedative comes from *Anacyclus pyrethrum* of the same botanical family.

W. V. MILLER

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See also **FEVERFEW**.